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HOUSING AND POPULATION HEALTH – RESEARCH FRAMEWORK

INTRODUCTION

A research framework has been developed to help guide the investigation of the relationship between housing and health. The framework uses a population health perspective.

Population health has emerged as a major theme for health research in Canada. Motivated by the central question, "What makes some groups of people healthy and others not?" the population health perspective suggests that the strongest determinants of health are socio-economic factors in everyday life. In particular, when looking at the health status of groups with different socioeconomic status, a decline in health is seen for each decline in socioeconomic position. While some of the health decline can be explained by conventional arguments such as material deprivation at low incomes or an increase in the taking of health risks with lower educational attainment, most of it cannot.

It thus appears that socio-economic factors largely shape health. Housing is likely a crucial component since it is a pivotal point of everyday life, but its role is little understood. While there has been a significant amount of research, it has been independently initiated and, as a body of work, lacks cohesion. It is possible then that if researchers were to share common concepts, definitions and goals, there would be greater cohesion, and easier interpretation of results. This is the purpose of the framework.

The starting points

The framework builds on existing work rather than starting from scratch and combines three approaches. One is the extension of existing research on housing and health to fill in gaps. A second approach, based on the population health premiss that socioeconomic inequalities lead to health inequalities, is to take the traditional housing indicators, which measure housing inequality, and investigate them from a health perspective. The third approach seeks new concepts and theories of housing by borrowing parallel concepts and theories from other subjects where research has already established that there are health impacts.

Based on these starting points, a review of existing research resulted in the following observations. So far, research into health implications of housing has focused on physical, chemical and biological exposures at the individual level leaving gaps in the areas of investigations at the population level and of "socioeconomic" exposures at any level. Research into inequalities has focused on: neighbourhood, tenure, dwelling condition, crowding, affordability and other financial aspects, but there has been very little exploration of them in relation to health. Finally, four parallel areas of health determinant research were identified as potentially lending themselves to housing: social support and health, working conditions and health, income inequalities and health and the biological effects of social influences over the course of a person's life.

The above suggests that there are many different approaches for future research; are there any commonalities that would link them? The framework considers there to be three high-level conceptual dimensions of housing: material dimensions, spatial dimensions and psychological dimensions. They are not mutually exclusive especially as psychological effects may also be caused by something material. The framework is organized around these three dimensions and their several sub-dimensions but also emphasizes the importance of examining these within the already established concepts of population health. Some more detailed observations follow, highlighting new or promising opportunities for research.

HOME TO CANADIANS
Canada

1. Material Dimensions

The principal material dimensions of the home include physical and financial aspects.

By and large, the framework suggests that future research on material dimensions be based on two approaches: gap-filling and exploration of the health effects of housing indicators. There are two indicators involved: housing affordability under the heading of financial aspects, and housing adequacy, the state of repair of the dwelling under physical aspects. Regarding these indicators, some refinements are suggested to better reflect the mechanisms by which health is theorized to be affected.

Physical aspects: The indoor environment has the potential to expose inhabitants to health threats arising from the physical structure. Many of these threats have been well documented (for example: indoor air pollution caused by molds, off-gassing from modern materials.) It is likely that dwelling condition – a housing indicator measured by need for major repair – would also fit here.

Physical design of housing also can affect health. Falls are a common cause of injury especially among seniors and good design can minimize their frequency. Adapted design (for example: ramps, grab-bars) can improve quality of life for those with disabilities or frailties.

In some cases, the health effects on individuals are known but there has been less investigation of the prevalence of such exposures and even less investigation of the cumulative burden of resulting poor health on society or on cost effectiveness of interventions.

Financial aspects: For many, affordability of housing is the first thing that comes to mind in regard to housing inequality. Most research has looked at health and housing costs from the perspective of low-income households and the rental sector. But health effects associated with difficulties in affording shelter are neither restricted to the rental sector nor to lower socioeconomic status. For example, people who have self-reported poor mental health include some who have experienced mortgage payment problems or arrears.

Affordability is not the only financial aspect relevant to health. Wealth may also be a factor. A recognized long-term benefit of homeownership is financial security – for most. But homeownership can also become a burden: for example, when owners find it difficult to sell the home, or when the value of a home is threatened or declines.

Another financial aspect with research potential is the trade-off between improved health through investment in housing improvements and the potential decline in health as competing investments or activities that could also improve health, are curtailed.

Investigation of these other aspects would require a more detailed financial indicator than the customary affordability measure of a proportion of gross income. A truer picture would need to take into account net wealth, gross and net income plus housing and health related expenditures.

2. Location and Spatial Dimensions of Housing

Regarding spatial dimensions of housing, the framework suggests future research should use the approach of investigating the health effects of the housing suitability indicator (which deals with crowding). It also borrows from other research areas (such as healthy community research) in suggesting that the neighbourhood be considered as an extension of the home environment.

The dwelling is generally fixed in terms of its spatial characteristics – size and layout are changed only with much expense and difficulty, its location cannot be changed at all. This means that home-based activities of all persons in a household have to take place within the physical boundaries of the dwelling. Other activities take place within the accessible surrounding environment.

Crowding in households is a well-established indicator for housing conditions and has received significant attention. The investigated health aspects were most commonly mental health and child health. Most results suggest that there is a link, however, they have rarely been conclusive due to the small scale and weakness of study design.

Health status varies markedly from one neighbourhood to another, and there has been considerable health-related research on neighbourhood effects. Housing markets create differentially priced neighbourhoods, based on their desirability. But it is not clear whether the health status differentials between neighbourhoods are just a reflection of differing socioeconomic status or whether the neighbourhoods themselves are contributing to the differential.

The population health paradigm includes the social environment of which neighbourhoods form a major part. Future research could consider which specific aspects of the neighbourhood have an effect. For example, the location of the home relative to services and amenities such as schools, public recreation facilities, health services and job opportunities could be looked at. The framework considers how long people stay in the same residence and lasting social ties as a factor on health.



3. Psychological and Meaningful Aspects of Housing

The framework suggests that research on psychological dimensions also be based on two approaches: gap-filling and borrowing parallel theories from other research areas (such as health effects of the working environment).

The framework recognizes that the dwelling is not just a place of shelter or an important financial investment – it is also a source of stability and pride, a foundation for family life, a hub in a social network, a refuge. In short, the dwelling is also the “home” and carries great psychological meaning. It is the place – for most occupants the only place - where they alone are able to exercise control.

Research in other areas (mainly on work and health) has shown that the absence of a sense of control results in emotional and physiological stress. While stress is something experienced at all levels of society, it is both more acute and chronic for persons at the lower end of the socioeconomic spectrum. The deleterious impact of chronic stress on the human body's systems is now understood and, quite feasibly, spread over a lifetime could diminish the health status of persons subjected to it.

Material and spatial dimensions have psychological overtones as well. Ownership or rental tenure, financial worries, crowding, unsafe neighbourhoods, can all affect a sense of control.

Other psychological ramifications of home relate to how people view their housing, and how others view it. While there can be prestige as a homeowner in a respected neighbourhood, there can also be stigma attached to living in run-down housing.

Another measure of “meaning” within the domestic environment is the level of satisfaction with one's housing. The framework advocates surveys on housing satisfaction in which the housing attributes most important to health are specifically explored.

A PERSPECTIVE THAT INCLUDES THE LIFE-COURSE

The population health perspective accepts that different groupings within the population have different determinants of good health. The framework covers the entire life cycle starting with early child development. This period of life is a central pillar of the population health perspective because of the powerful influence early life conditions have on future social, economic and health outcomes. There has only been a small amount of work on how children's domestic environments shape their health and development. In regards to seniors, more data is needed on housing's role in supporting later life and alleviating social isolation.

CONCLUSIONS

Most of the existing research has shortcomings. Future research should focus on stronger designs with features that address the noted weaknesses of the past and should try to establish causality. In particular, future research should try to show both an effect at the population level and evidence of the pathway by which housing affects health. Studies should include strategies to deal with other variables than housing that could also have explanatory power and thus may confound the housing variable. Longitudinal research is needed to overcome problems of latency of effects.

Some specific strategies were put forward in the framework.

- Better integration of surveys so that the right type of housing data is collected along with health data would allow for much improved analysis. Suitable survey vehicles of cross-sectional and longitudinal design already exist but the housing content is not adequate.
- Randomized quasi-experimental studies can also produce evidence of causal relationships between housing and health. There are likely many opportunities to utilize “natural” experiments where households change their housing circumstances but other circumstances remain the same.
- Finally, if ethical requirements can be met, the use of health care administrative records should be incorporated in study designs where links can be made to the housing circumstances of the health care users.

This research highlight is condensed from a report initiated by the National Housing Research Committee, a network of housing-related organizations in Canada (both public and private) that helps to set priorities for housing research.

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Housing Research at CMHC

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